



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
5761 SILVERADO WAY, UNIT N
POUCH 340043

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518
PRUDHOE BAY, ALASKA 99734

(907) 456-3116 • FAX 456-3125
(907) 349-1000 • FAX 349-1016
(907) 659-2145 • FAX 659-2146

June 6, 2003

U.S. Environmental Protection Agency

Attn: Jim Corpuz
1200 Sixth Avenue
Seattle, WA 98101

Re: NPDES Permit AK-002139-3, Williams Alaska Petroleum, Inc., Industrial Compliance
Monitoring and Inspection Report

Dear Mr. Corpuz:

Enclosed are our observations, sample results, and a photo log from the industrial compliance monitoring and inspection of the Williams Alaska Petroleum, Inc. (WAPI), wastewater treatment system on May 8, 2003. This inspection is required semiannually in section I.B. of NPDES Permit AK-002139-3. Effluent samples were collected from the blower house by Todd Johnson of Northern Testing Laboratories, Inc. (NTL), and Kelly Dygert of WAPI, and witnessed by Michael Pollen of NTL and Randy Johnson of the City of North Pole. The composite sampler temperature was 5 °C.

Observations: All three cells were thawed and operating under open water conditions. Aerated lagoon Cell A appeared to have a good air pattern and the curtain baffle was intact. A three-inch flexible hose line was being used to transfer influent to Cell A from the pretreatment system due to maintenance work on the transfer pumps. That line was planned to be used to transfer an estimated 5-10 gallons per minute of uncontaminated firewater directly to Cell A that would bypass the pretreatment system during plant maintenance activities scheduled during the next several weeks. The discharge point for the temporary line was to the mid point of the lagoon. We recommended the line be extended to the influent end of Cell A to ensure that the full detention time for that cell would be used.

Aerated lagoon Cell B was still being used as a containment basin for wastewater containing moderately high concentrations of sulfolane. The Cell B wastewater had a milky, turbid appearance and several "whales" (sections of lagoon liner inflated with air) were visible in lagoon. The WAPI staff reported that they plan to continue diverting a small flow of the sulfolane-containing wastewater in Cell B to Cell A after the maintenance work at the plant has been completed this spring.

Cell C, from which the effluent discharges to the City of North Pole, was full, had a good air pattern, and the curtain baffles were intact. The seasonal algae bloom was in full progress. No whales were visible during the inspection. A photo log of the equipment inspection and sample collection is enclosed with this report.

Williams has completed the installation of two 1,000-barrel (42,000-gallon) influent containment tanks (Tanks 195 and 196) as part of a planned upgrade to the wastewater pretreatment system. Sulfolane-containing influent is diverted through Tanks 195 and 196, then to Tank 192, the main influent to the pretreatment system. The new tanks are operated in a fill and draw mode and are alternated when filled according to Dave Guinn, WAPI environmental manager. Each batch is then monitored for sulfolane to verify that the concentration will not exceed 400 PPM when added to tank 192, which is within the pretreatment system's capacity, according to Dave. High concentration sulfolane wastewater can otherwise be diverted to an appropriate location outside of the treatment train so the pretreatment discharge permit sulfolane limit is not exceeded.

Sample results: The sample parameters and collection methods are shown in Table 1.

Table 1. Sample parameters and sample collection methods, Dec. 12, 2002

Parameter	Units	Type of Sample
Flow	gpd	Recording flow meter, on-site
Oil & Grease	mg/L	Grab
Ammonia (as N)	mg/L	24-hour composite
TSS	mg/L	24-hour composite
BOD ₅	mg/L	24-hour composite
COD	mg/L	24-hour composite
BTEX	mg/L	Grab
Conductivity	µS/cm	Grab / On-site
pH	pH units	Grab / On-site
Metals	mg/L	24-hour composite

An effluent grab sample was taken to the laboratory at the North Pole wastewater lagoon and analyzed for conductivity, pH, and temperature within one hour of sample collection. Those results and the flow rate are presented in Table 2.

Table 2. Williams Alaska Petroleum, Inc., effluent monitoring, May 8, 2003, on-site data

Parameter	Units	Result	Instrument or Method
Flow	gpd	87,840	Flow Monitor*
Conductivity	µS/cm	8,160	Hach conductivity meter
pH	pH units	7.4	Corning pH meter
Temperature	°C	11.0	Corning pH meter

* Refinery control room meter reading = 61 gpm x 1,440 minutes/day.

NORTHERN TESTING LABORATORIES, INC.

A 24-hour composite sample taken from the autosampler was split between the NTL and WAPI labs. Data from both laboratories were compared to help determine the relative precision of these analyses. These data comparisons and the relative percent difference (RPD) between these results are presented in Table 3.

Table 3. Comparative data from Williams and NTL labs, May 8, 2003, samples

Parameter	NTL Result	Williams Result	RPD
Ammonia as N (mg/L)	24	22.03	8.6 %
Oil & Grease (mg/L)	7.45	9.50	24.2 %
BOD (mg/L)	22	ND	-
COD (mg/L)	230	288	24.2 %
TSS (mg/L)	19	16.07	16.7 %

ND = No Data

The RPD data show that the comparability between laboratories is good for all parameters reported (within 5 to 25 percent). The reported values for all parameters analyzed from these samples are within the pretreatment permit limits.

Please call me at 907-456-3116 if you have any questions regarding this report.

Sincerely,
Northern Testing Laboratories, Inc.



Michael R. Pollen, President

Enclosures: Photo Log
NTL Data Transmittals
Chain of Custody/Work Order

cc: John Cherry, Williams Alaska Petroleum, Inc.
Kathleen McCullom, Williams Alaska Petroleum, Inc.
Dave Guinn, Williams Alaska Petroleum, Inc.
Kelly Dygert, Williams Alaska Petroleum, Inc.
Randy Johnson, City of North Pole
Tim Wingerter, ADEC Northern Regional Office

NORTHERN TESTING LABORATORIES, INC.



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
5761 SILVERADO WAY, UNIT N
POUCH 340043

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518
PRUDHOE BAY, ALASKA 99734

(907) 456-3116 • FAX 456-3125
(907) 349-1000 • FAX 349-1016
(907) 659-2145 • FAX 659-2146

Williams Alaska Petroleum
1100 H & H Lane
North Pole, AK 99705

Attn: Dave Guinn
Phone: (907) 488-0054
Fax:

NTL Lab#: F311929
Client Sample ID: Composite-Auto Sampler
Client Project: Biannual Industrial Compliance Monitoring
Location:
Sample Matrix: Wastewater
COC #: 36102

Report Date: 5/23/03
Date Arrived: 5/8/03
Date Sampled: 5/8/03
Time Sampled: 8:45
Collected By: TJ

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Present in Blank
H = Exceeds Regulatory Limit
M = Matrix Interference
J = Estimated Value
D = Lost to Dilution
U = Less Than Reporting Limit

Comments:

Analysis Method	Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Date
EPA 200.7	Silver	< MRL	mg/L	U	0.020		SM 3030K	5/12/03	5/21/03
EPA 200.8	Arsenic	0.031	mg/L		0.0050		SM 3030K	5/12/03	5/22/03
	Cadmium	< MRL	mg/L	U	0.0050		SM 3030K	5/12/03	5/22/03
	Copper	< MRL	mg/L	U	0.050		SM 3030K	5/12/03	5/22/03
	Lead	< MRL	mg/L	U	0.0050		SM 3030K	5/12/03	5/22/03
	Nickel	< MRL	mg/L	U	0.050		SM 3030K	5/12/03	5/22/03
	Selenium	0.028	mg/L		0.015		SM 3030K	5/12/03	5/22/03
	Zinc	< MRL	mg/L	U	0.10		SM 3030K	5/12/03	5/22/03
EPA 245.1	Mercury	< MRL	mg/L	U	0.00025				5/16/03
SM 2540-D	Total Suspended Solids	19	mg/L		3.3				5/9/03
SM 5210-B	Biochemical Oxygen Demand	22	mg/L						5/8/03

Michael R. Pollen

Reported by Michael R. Pollen
President



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
5761 SILVERADO WAY, UNIT N
POUCH 340043

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518
PRUDHOE BAY, ALASKA 99734

(907) 456-3116 • FAX 456-3125
(907) 349-1000 • FAX 349-1016
(907) 659-2145 • FAX 659-2146

Williams Alaska Petroleum
1100 H & H Lane
North Pole, AK 99705

Attn: Dave Guinn
Phone: (907) 488-0054
Fax:

NTL Lab#: F311929
Client Sample ID: Composite-Auto Sampler
Client Project: Biannual Industrial Compliance Monitoring
Location:
Sample Matrix: Wastewater
COC #: 36102

Report Date: 5/23/03
Date Arrived: 5/8/03
Date Sampled: 5/8/03
Time Sampled: 8:45
Collected By: TJ

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Present in Blank
H = Exceeds Regulatory Limit
M = Matrix Interference
J = Estimated Value
D = Lost to Dilution
U = Less Than Reporting Limit

Comments:

Analysis Method	Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Date
SM 5220-C	Chemical Oxygen Demand	230	mg/L		40				5/13/03
SM4500-NH3-C	Ammonia-N	24	mg/L		0.40				5/15/03

Michael R. Pollen

Reported by Michael R. Pollen
President



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
5761 SILVERADO WAY, UNIT N
POUCH 340043

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518
PRUDHOE BAY, ALASKA 99734

(907) 456-3116 • FAX 456-3125
(907) 349 1000 • FAX 349-1016
(907) 659-2145 • FAX 659-2146

Williams Alaska Petroleum, Inc.
1100 H & H Lane
North Pole, AK 99705

Attn: Dave Guinn
Phone: (907) 488-0054
Fax: (907) 488-5185

NTL Lab#: A306785
Client Sample ID: Grab-Sample Port
Client Project: Biannual Ind. Compliance Monitoring
Location:
Sample Matrix: Wastewater
COC #: 36102


Report Date: 05/22/03
Date Arrived: 05/09/03
Date Sampled: 05/08/03
Time Sampled: 8:47
Collected By: TJ

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Present in Blank
H = Exceeds Regulatory Limit
M = Matrix Interference
J = Estimated Value
D = Lost to Dilution
U = Less Than Reporting Limit

Comments:

Analysis Method	Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Date
EPA 1664	Oil and Grease, Gravimetric	7.45	mg/L		2.04		EPA 1664	05/13/03	05/16/03
EPA 602	Benzene	< MRL	ug/L	U	0.50				05/13/03
	Toluene	< MRL	ug/L	U	0.50				05/13/03
	Chlorobenzene	< MRL	ug/L	U	0.50				05/13/03
	Ethylbenzene	< MRL	ug/L	U	0.50				05/13/03
	m,p-Xylene	< MRL	ug/L	U	1.00				05/13/03
	o-Xylene	< MRL	ug/L	U	0.50				05/13/03
	1,3-Dichlorobenzene	< MRL	ug/L	U	1.00				05/13/03
	1,4-Dichlorobenzene	< MRL	ug/L	U	1.00				05/13/03
	1,2-Dichlorobenzene	< MRL	ug/L	U	1.00				05/13/03
	Total Aromatic Hydrocarbons	< MRL	ug/L	U	1.00				05/13/03
	4-Bromofluorobenzene	93	% Recovery						05/13/03


Reported By: Wendy Mitchell
Anchorage Laboratory Manager



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
5761 SILVERADO WAY, UNIT N
POUCH 340043

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518
PRUDHOE BAY, ALASKA 99734

(907) 456-3116 • FAX 456-3125
(907) 349-1000 • FAX 349-1016
(907) 659-2145 • FAX 659-2146

Williams Alaska Petroleum, Inc.
1100 H & H Lane
North Pole, AK 99705

Attn: Dave Guinn
Phone: (907) 488-0054
Fax: (907) 488-5185

NTL Lab#: A306786
Client Sample ID: Travel Blank
Client Project: Biannual Ind. Compliance Monitoring
Location:
Sample Matrix: Water
COC #: 36102

Report Date: 05/14/03
Date Arrived: 05/09/03
Date Sampled:
Time Sampled:
Collected By:

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Present in Blank
H = Exceeds Regulatory Limit
M = Matrix Interference
J = Estimated Value
D = Lost to Dilution
U = Less Than Reporting Limit

Comments:

Analysis Method	Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Date
EPA 602									
	Benzene	< MRL	ug/L	U	0.50				05/12/03
	Toluene	< MRL	ug/L	U	0.50				05/12/03
	Chlorobenzene	< MRL	ug/L	U	0.50				05/12/03
	Ethylbenzene	< MRL	ug/L	U	0.50				05/12/03
	m,p-Xylene	< MRL	ug/L	U	1.00				05/12/03
	o-Xylene	< MRL	ug/L	U	0.50				05/12/03
	1,3-Dichlorobenzene	< MRL	ug/L	U	1.00				05/12/03
	1,4-Dichlorobenzene	< MRL	ug/L	U	1.00				05/12/03
	1,2-Dichlorobenzene	< MRL	ug/L	U	1.00				05/12/03
	Total Aromatic Hydrocarbons	< MRL	ug/L	U	1.00				05/12/03
	4-Bromofluorobenzene	109	% Recovery						05/12/03

Wendy Mitchell
Reported By: Wendy Mitchell
Anchorage Laboratory Manager

**Williams Alaska Petroleum, Inc.
Industrial Compliance Inspection
Photo Log: May 8, 2003**



Photo 1: NTL and Williams techs collected effluent grab and composite samples in the blower building.



Photo 2: A 3-inch flexible line (right) was transferring influent to Cell A.



Photo 3: Cell B was full of sulfolane wastewater and had several "whales."



Photo 4: Cell C had a good air pattern and the curtain baffles were intact. The seasonal algae bloom was present.



Photo 5: New pretreatment Tanks 195 and 196 were installed and operating to control sulfolane-contaminated influent wastewater.



Photo 6: NTL Tech Todd Johnson and WAPI Tech Kelly Dygert split the composite wastewater sample in the Williams lab.